U.S. Fish & Wildlife Service

pH

What does pH measure?

pH is a measurement of the acidity or basic quality of water. For example, lemons, oranges and vinegar are high in acid



("very acidic"). Acids can sting or burn, which is what you feel when you eat some kinds of fruit and there is a sore in your mouth. The pH scale ranges from a value of 0 (very acidic) to 14 (very basic), with 7 being neutral. The pH of natural

water is usually between 6.5 and 8.2.

pH can vary, however, due to pollution from automobiles and coal-burning power plants. These sources of pollution help form acid rain. Acid forms when chemicals in the air combine with moisture in the atmosphere. It falls to



earth as acid rain or snow. As a result, many lakes in eastern Canada, northeastern U.S. and northern Europe are becoming acidic. This has become an international problem. Air pollution from one country easily crosses borders where it falls in the form of acid rain or snow.

pH Value Scale Salmonid Bass and Snails and eaas trout tadpoles Caddisflies and alevin beain to beginto Best level and die die die mayflies for die most fish All Fish All Fish Dead Dead Acidic Basic Vinegar Acid Tom atoes Bleach Lemon Carrots-Ammonia. Normal

Why is pH important?

At extremely high or low pH levels (for example 9.6 or 4.5), the water becomes unsuitable for most organisms. Very young fish and insects are also very sensitive to changes in pH. Most aquatic organisms adapt to a specific pH level and may die if the pH of the water changes even slightly. pH can be affected by industrial waste, agricultural runoff or drainage from improperly run mining operations.

